DOCUMENT RESUME

ED 282 324 EA 019 419

AUTHOR Hill, Franklin
TITLE Facility Planning for 21st Century. Technology, Industry, and Education.
PUB DATE Nov 86
NOTE 14p.; Paper presented at the Edusystems 2000 International Congress on Educational Facilities--Values & Contents (Jerusalem, Israel, November 16-21, 1986).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Educational Facilities Planning; Facility Planning; High Schools; Industry; *Long Range Planning; *School Buildings; *School Business Relationship; *Technological Advancement; Workshops
IDENTIFIERS *Orange County Public Schools FL

ABSTRACT

When the Orange County School Board (Orlando, Florida) decided to build a new high school, they recognized Central Florida's high technology emphasis as a special challenge. The new facility needed to meet present instructional demands while being flexible enough to incorporate 21st century technologies. The final result is a new $30 million high school known as the "Educational City of the Future." The board began with a 500-page educational specifications document addressing 24 program areas. Dissatisfied with their visit to 25 other Florida schools, the planning team sponsored a half-day workshop pairing community businesses with specific instructional program areas. Industrial participants included Walt Disney World, Sea World, NASA, General Electric, the Florida Solar Energy Center, WFTV Channel 9, and the Orlando Sentinel Newspaper. Roundtable discussions focused on technological advances in each industry that might challenge and excite children about learning and their future. Experts' recommendations included provisions for a greenhouse, a commercial cooking and baking classroom for exceptional students, a marine biology lab, a robotics and vision systems area, a closed circuit TV area, and a business wing. All 28 recommendations could be accomplished within the construction budget. (MLH)

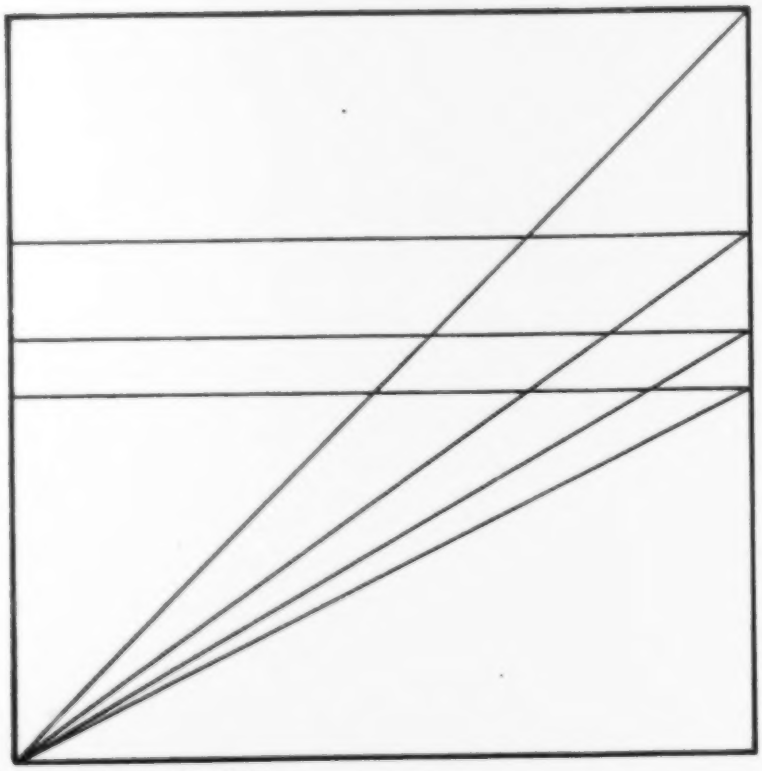
****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED282324

Facility Planning for 21st Century

TECHNOLOGY

INDUSTRY AND EDUCATION



Franklin Hill, PhD •

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Franklin Hill

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EA 019 419

• edusystems 2000

INTERNATIONAL CONGRESS ON EDUCATIONAL FACILITIES — VALUES & CONTENTS
Jerusalem, Israel • November 16-21, 1986

THE EDUCATIONAL CITY OF THE FUTURE...

PLANNING FOR HIGH TECHNOLOGY

Franklin Hill, Ph.D.

Independent Facilities Consultant
Maitland, Florida

Imagine your child sitting in a classroom designed with assistance from Walt Disney World, Sea World, General Electric, NASA, and two major communications companies. And imagine that in the year 2010 this classroom is still as technologically advanced as it was 25 years before. The Orange County Public Schools in Orlando, Florida, had the opportunity to make this dream a reality.

Central Florida is one of the nation's fastest growing areas. Major corporations have found it an opportune place to relocate. High tech industry is moving in at such a pace that John Naisbitt, author of Megatrends, refers to Orlando as the high technology growth point of the South East United States.

When the Orange County School Board members decided to build a new high school, they recognized what was happening in Central Florida and the challenge that high technology placed upon them -- "to build a school to meet today's instructional programs, while being flexible enough to incorporate the technologies of the 21st century". The final result: a new $30 million high school to be known as "The Educational City of the Future".

The School Board produced a 500-page educational specifications document which addressed 24 program areas in detail. In any other design project, this would be the primary, if not the only communication between the architect and the school district administration. Fortunately, the planning and design team recognized that this would not produce a sufficient sophistication for the technological future of the Central Florida area.

After a team of educators and the project facility planner visited 25 schools around the state to examine the best examples of each instructional program, they were still seeing "yesterday's" institutional designs. They were faced with the question of how to design the school so that it could accept the varied technologies anticipated in the 21st century.

The planning team found the answer in the world of high technology surrounding them. Beginning with a half-day workshop entitled "Industry and Education--Planning for New Technology", community businesses were paired with specific instructional program areas.

The industrial participants included:

Walt Disney World

Sea World

NASA

General Electric

The Florida Solar Energy Center

WFTV Channel 9 -- Orlando

The Orlando Sentinel Newspaper

Their response exceeded all expectation.

THE WORKSHOP

The potential strength and influence that the workshop would have upon educational planning and design became apparent when the leaders of these major companies sat at round-table discussions with members of the Orange County School Board, school district staff, and representatives from the planning/design firm. There were three strategic goals to be accomplished by this workshop:

Communication: Open lines of communication between corporate leadership, the school board, and the planning team.

Commitment: Establish solid commitment by industry to the successful planning and design of a 21st Century educational facility.

Visitations: Schedule specific visitations to observe the impact that changing technologies have had on each of the representative industries. By observing where existing buildings have failed, the planning team felt confident it could design a facility capable of avoiding such problems in the future.

A COMMON CONCERN -- CHILDREN

Because of the diverse professions of the participants, it was essential to focus quickly upon a common element to all parties. Therefore, the following question was proposed:

"If your child were to attend the new high school, what technological advancements are you aware of in your business or profession that would make them excited about learning and challenged about their future?"

The participants came prepared with brochures, papers, photographs, and excitement for a very interesting challenge.

EXPERTS' ADVISE

At Walt Disney World, the educators and planning team studied the areas of horticulture, food services operations, and computer information systems technology. One recommendation was the provision of a greenhouse, which can be computerized for monitoring temperature, humidity and other environmental factors. A second recommendation provides a commercial cooking and baking classroom for the most up-to-date training of Exceptional Education students which will allow them useful job entry skills.

At Sea World, marine biology was the focus of attention. Recommendations for this program included natural/artificial lighting of aquariums, solar orientation of aquariums, saltwater system maintenance, and identifying specialized design features to support marine biology dissection.

General Electric emphasized the future of robotics and vision systems. Although the initial vocational programs address woodshop and auto mechanics, the final design of this area is the most cost-effectively flexible and expandable of any interior space within the high school complex and can convert to robotics or other technical career areas.

NASA explored future satellite dish communications with the space shuttle in order to conduct simultaneous gravity/weightlessness experiments with the science department.

The Florida Solar Energy Center helped develop several strategies for solar heating of domestic hot water, while also making this system part of the instructional program for science. In addition, the entire facility was "modeled" through wind tests to insure air flow and natural ventilation to meet the high Florida standards for energy conservation.

The new school is planned for three closed circuit television areas. The studio located in the media center will have the traditional networking to every classroom. Thanks to the participation of WFTV Channel 9, however, this studio will also reflect some of the finest recent technology in lighting and studio orientation for instructional media.

The business wing epitomizes the challenge of free enterprise and the technological future. The Orlando Sentinel newspaper provided many recommendations for the proper planning and placement of word processors there and in other classroom areas. Classrooms are designed to accept below-floor computer networking and all computer workstations were preidentified to allow special design of lighting to avoid screen glare.

THE PAYOFF

The final "Report and Recommendations" presented to the Orange County Public Schools included 11 major and 17 minor recommendations. Eighteen of the 24 instructional programs were affected. Only six recommendations had small associated costs, which were not expected to be a budget factor in a project of this magnitude. In the end, all 28 recommendations could be accomplished within the construction budget.

This marriage between industry and education paid off with benefits that will be reaped by the children of the next century. In many school systems, education is playing catch-up with technology. In Orlando, Florida, tomorrow's technology is happening today.

NOTE: Dr. Hill was the educational facility planner for the Dr. Phillips High School while Vice President of Educational Facilities with Pierce Dorsey Rohrdanz, Architects.

He created and implemented the "Industry and Education" workshop and involved the corporations identified within this paper.

He is now an independent educational facilities planning consultant in Orlando, Florida.

21ST CENTURY FACILITY PLANNING

- ☐ The Problem: Traditional Thinking
- ☐ The Solution: Private Industry
- ☐ Design Recommendations
- ☐ The Future: Where From Here?

THE PROBLEM: Traditional Thinking

- ☐ Rapid Technological Change
- ☐ Limited Educational Awareness
- ☐ Meet 21st Century Needs

THE SOLUTION: Private Industry

- ☐ Concern For Children
- ☐ Initiate Communication
- ☐ Establish Commitment From Leadership
- ☐ Schedule Visitations To Industry

DESIGN RECOMMENDATIONS:

- ☐ Computer Information Systems
- ☐ Instructional Television
- ☐ Space Shuttle Communications
- ☐ Marine Biology
- ☐ Robotics
- ☐ Exceptional Education

THE FUTURE: Where From Here?

- ☐ Create International Planning Committee
- ☐ Identify Specific Trends In Technology
- ☐ Develop Prototype Instructional Programs
- ☐ Develop Design / Engineering Criterion